CLAIMS

What is claimed is:

 An active layer comprising at least one compound having a formula selected from Formula I, Formula II, and Formula III:

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 $Pt(L^{1})_{2}$ (I) $PtL^{1}L^{2}$ (II) $PtL^{1}L^{3}L^{4}$ (III)

where:

in Formulae I, II, and III:

L1 has Formula IV:

$$R^{1}$$
 N
 (IV)
 R^{2}
 R^{3}

wherein:

15 $R^1 = H, R^4, OR^4, N(R^4)_2$

 $R^2 = H, C_nF_{2n+1}, C_nF_{2n+1}SO_2, COOR^4, CN$

 $R^3 = H, C_nF_{2n+1}, C_nF_{2n+1}SO_2, COOR^4, CN,$

R⁴ is the same or different at each occurrence and is H, alkyl, aryl, or adjacent R⁴ groups can join together to form a

5- or 6-membered ring, and

n is an integer from 1 through 20;

in Formula II:

L² is a monoanionic bidentate ligand;

in Formula III:

25 L³ is a monoanionic monodentate ligand; and

L⁴ is a nonionic monodentate ligand.

- 2. The active layer of Claim 1, wherein R^{12} and R^{13} are independently selected from H, CF_3 , C_2F_5 , n- C_3F_7 , i- C_3F_7 , C_4F_9 , CF_3SO_2 , $COOR^{14}$ and CN.
- 3. The active layer of Claim 1, wherein the compound has Formula
 5 I and L² is selected from a β-enolate, a phosphino alkoxide, and a ligand coordinated through a carbon atom which is part of an aromatic group.
 - 4. The active layer of Claim 1, wherein the compound has Formula II and L^3 is a hydride.
- 5. The active layer of Claim 1, wherein L¹ is selected from ligand
 10 1-a through 1-y as shown in Table 5.
 - 6. The active layer of Claim 1, wherein L¹ is selected from Formula V Formula VI, Formula VII, Formula VIII, and Formula IX:

$$CF_3$$
 (V)

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$$F_3C$$
 F_3C
 F_3C

- 5 7. An organic electronic device comprising at least one active layer of Claim 1.
 - 8. A compound having a formula selected from Formula I, Formula II, and Formula III:

10 $Pt(L^{1})_{2}$ (I) $PtL^{1}L^{2}$ (II) $Pt L^{1}L^{3}L^{4}$ (III)

where:

in Formulae I, II, and III:

15 L¹ has Formula IV:

$$\mathbb{R}^{1}$$
 \mathbb{N}
 \mathbb{R}^{2}
 \mathbb{R}^{3}

wherein:

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 $R^1 = H, R^4, OR^4, N(R^4)_2$

 $R^2 = H, C_nF_{2n+1}, C_nF_{2n+1}SO_2, COOR^4, CN$

 $R^3 = H, C_n F_{2n+1}, C_n F_{2n+1} SO_2, COOR^4, CN,$

R⁴ is the same or different at each occurrence and is H, alkyl, aryl, or adjacent R⁴ groups can join together to form a 5- or 6-membered ring, and

n is an integer from 1 through 20;

in Formula II:

L² is a monoanionic bidentate ligand;

in Formula III:

 L^3 is a monoanionic monodentate ligand; and

L⁴ is a nonionic monodentate ligand.

- 9. The compound of Claim 8, wherein L¹ is selected from ligands 1-a through 1-y, as shown in Table 1.
- 10. A compound of Claim 8, wherein R² and R³ are independently selected from H, CF₃, C₂C₅, n-C₃C₇, i-C₃F₇, C₄C₉, CF₃SO₂, COOR¹⁴ and CN.
 - 11. A compound of Claim 8, wherein the compound has Formula II and L^2 is selected from a β -enolate, a phosphino alkoxide, and a ligand coordinated through a carbon atom which is part of an aromatic group.
- 12. A compound of Claim 8, wherein the compound has Formula III
 25 and L³ is a hydride.
 - 13. A compound having Formula Formula XV:

$$F_3C$$
 F_3C
 F_3C
 F_3C
 F_3C
 F_3C

- 14. An organic electronic device comprising a layer that comprises5 the compound of Claim 8.
 - 15. An organic electronic device comprising a layer that comprises the compound of Claim 9.
 - 16. An organic electronic device comprising a layer that comprises the compound of Claim 10.
 - 17. An organic electronic device comprising a layer that comprises the compound of Claim 11.
 - 18. An organic electronic device comprising a layer that comprises the compound of Claim 12.
- 19. An organic electronic device comprising a layer that comprises15 the compound of Claim 13.
 - 20. An active layer of claim 1 further comprising a diluent.
 - 21. An active layer of claim 20 wherein the diluent further comprises a material selected from a polymer, a small molecule, and a mixture thereof.

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